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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Sam-Chul Ha

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EXAMINER

ADHAMI, MOHAMMAD SAJJID

ART UNIT

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2471

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,617	Applicant(s) HA ET AL.	
	Examiner MOHAMMAD S. ADHAMI	Art Unit 2471	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-8,10-12,15,16,18-20,22,27,29,33,35,41,43,46,50,51 and 53 is/are pending in the application.
- 4a) Of the above claim(s) 1-3,5-8,12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,11,15,16,18-20,22,27,29,33,35,41,43,46,50,51 and 53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/28/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Response to Election/Restriction filed 7/13/2009 is acknowledged.
- Claims 1-3,5-8,12 are withdrawn.
- Claim 4,9,13,14,17,21,23-26,28,30-32,34,36-40,42,44,45,47-49,52, and 54-57 are cancelled.
- Claims 10,11,15,16,18-20,22,27,29,33,35,41,43,46,50,51, and 53 are elected.
- Claims 1-3,5-8,10-12, 15,16,18-20,22,27,29,33,35,41,43,46,50,51, and 53 are pending.

Election/Restrictions

1. Applicant's election of claims 9-11,15,16,18-20,22,27,29,33,35,41,43,46,50,51, and 53 in the reply filed on 7/13/2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

2. Claim 16 is objected to because of the following informalities: In line 5, "(BackOffRetriesL" should be "(BackOffRetries)", "performinq" should be "performing", and "startif" should be "starting". Appropriate correction is required.
3. Claim 41 is objected to because of the following informalities: In line 8 "SvcPriority" should be "(SvcPriority)". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 15,16,18-20,27,33,35,43,46,50,51, and 53 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 27 depend from a withdrawn claim. It is unclear what claim these claims depend from.

Claim 18 is an improper dependent claim. It depends from claims 10-12, and 15 and is therefore an improper multiple dependent claim.

Claims 33,35,43,46, and 50 depend from cancelled claims. It is unclear what claim these claims depend from.

Claim 51 depends from claim 51, which makes it unclear because a claim cannot depend from itself.

Claims 16,19,20, and 53 are rejected because it depends from a rejected claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 10,11,15,16,18-20,22,27,29,33,35,41,43,46,50,51, and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Raphaeli (US App. 2003/0103521).

Re claim 10:

Raphaeli discloses *a first checking step for checking whether the network status is in an idle status* (Fig.20A ref.206 Channel Free? and Para.[0099] Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA).).

Raphaeli further discloses *according to a result of the first checking step, selecting a transmission delay time* (Para.[0099] If the carrier sense mechanism determines the medium is busy, transmission is deferred until after the current transmission and Para.[0205] If when the backoff algorithm is initiated the channel is idle, the station initiates transmission immediately. Otherwise, the station randomizes a backoff between 0 and CW_{PK}).

Raphaeli further discloses *a second checking step for checking whether the network status is an idle status during the selected transmission delay time* (Fig.20A ref.206 Channel Free? – where the second check occurs after the backoff time).

Raphaeli further discloses *according to a result of the second checking step, transmitting the received packet to the physical layer* (Para.[0250] After the transmitter receives the CTS frame it begins transmitting the session data frames and Para.[0005] physical layer – where the physical layer is used for transmission).

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Re claim 11:

Raphaeli discloses *the first network status checking step is performed during a minimum packet permitted time interval (Fig.20A ref.202 CWMin is a minimum packet permitted time interval).*

Re claims 15 and 33:

Raphaeli discloses *if, in the first decision step, the packet is not successfully transmitted, increasing a retry count) for the received packet by a predetermined value (Para.[0186] the number of retries is incremented).*

Raphaeli further discloses *making a first comparison between the increased retry count and a predetermined backoff repeat time; and based on a result of the first comparison, transmitting a transmission result to the upper layer (Para.[0215] If the number of retries is less than RTS/RZ_first_retry the size of the CW is adjusted and Para.[0048] the receiving station transmitting an ACK reply).*

Re claim 16:

Raphaeli discloses *if, in the first comparison step, the increased retry count (RetryCount) is greater than the backoff repeat times, the transmission result comprises a failure message (Para.[0215] If the max_RTS/RA_retries has not been met, the method continues with checking for the idle channel state. Otherwise a link failure is declared).*

Raphaeli further discloses *or if, in the first comparison step, the increased retry count is less or equal to the backoff repeat time performing all steps again*

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starting from the first checking step (Para.[0215] If the max_RTS/RA_retries has not been met, the method continues with checking for the idle channel state. Otherwise a link failure is declared).

Re claims 18,35, and 46:

Raphaeli discloses *making a second comparison between a transmission execution time of the received packet and a predetermined maximum transmission allowable time* (Para.[0131] When a packet is received from the host, a Packet_Timeout time is initialized to the value of Packet_Timeout. When the Packet_Timeout timer expires, the transmission is aborted and the packet is dropped).

Raphaeli further discloses *if, in the first and second checking step, the network status is busy or if, in the first comparison step, the increased retry count is less or equal to the back repeat times, the second comparison is performed* (Para.[0131] When a predefined threshold Packet_Timeout_Threshold is reached, the packet priority is incremented by one and contention for the channel is attempted using the new priority).

Re claim 19:

Raphaeli discloses *based on the result of the second comparison, transmitting a transmission result to the upper layer* (Para.[0048] the receiving station transmitting an ACK reply).

Re claim 20:

Raphaeli discloses *if, in the second comparison step, the transmission execution time of the received packet is greater or equal to the maximum transmission allowable time, the transmission result comprises a failure message* (Para.[0131] When a packet is received from the host, a Packet_Timeout time is initialized to the value of Packet_Timeout. When the Packet_Timeout timer expires, the transmission is aborted and the packet is dropped).

Raphaeli further discloses *or if, in the second comparison step, the transmission execution time of the received packet is less than the maximum allowable time, performing all steps again starting from the first checking step* (Para.[0131] When a predefined threshold Packet_Timeout_Threshold is reached, the packet priority is incremented by one and contention for the channel is attempted using the new priority).

Re claim 22:

Raphaeli discloses *the transmission delay time is selected within a predetermined competitive window range, according to service priority of the received packet* (Para.[0033] multiple contention windows based on priority class).

Re claim 27:

Raphaeli discloses *comparing the transmitted packet with the received packet and based on a result of the comparison, deciding whether the packet is*

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successfully transmitted (Para.[0048] the receiving station transmitting an ACK reply).

Re claim 29:

Raphaeli discloses *a first checking step for checking whether the network status is in an idle status* (Fig.20A ref.206 Channel Free? and Para.[0099] Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA).).

Raphaeli further discloses *according to a result of the first checking step, transmitting the received packet to the physical layer* (Para.[0099] If the carrier sense mechanism determines the medium is busy, transmission is deferred until after the current transmission and Para.[0205] If when the backoff algorithm is initiated the channel is idle, the station initiates transmission immediately and Para.[0005] physical layer – where the physical layer is used for transmission).

Raphaeli further discloses *according to a result of the first checking step, transmitting the received packet to the physical layer* (Para.[0250] After the transmitter receives the CTS frame it begins transmitting the session data frames and Para.[0005] physical layer).

Raphaeli further discloses *making a first decision regarding whether the packet is successfully transmitted* (Para.[0048] the receiving station transmitting an ACK reply).

Re claim 41:

Raphaeli discloses *a first checking step for checking whether the network status is in an idle status* (Fig.20A ref.206 Channel Free? and Para.[0099] Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA).).

Raphaeli further discloses *according to a result of the first checking step, selecting a transmission delay time* (Para.[0099] If the carrier sense mechanism determines the medium is busy, transmission is deferred until after the current transmission and Para.[0205] If when the backoff algorithm is initiated the channel is idle, the station initiates transmission immediately. Otherwise, the station randomizes a backoff between 0 and CW_{Px}).

Raphaeli further discloses *selecting a transmission delay time within a predetermined competitive window range defined according to service priority SvcPriority of the received packet* (Para.[0033] multiple contention windows based on priority class).

Raphaeli further discloses *a second checking step for checking whether the network status is an idle status during the selected transmission delay time* (Fig.20A ref.206 Channel Free? – where the second check occurs after the backoff time).

Raphaeli further discloses *according to a result of the second checking step, transmitting the received packet to the physical layer* (Para.[0250] After the transmitter receives the CTS frame it begins transmitting the session data frames

and Para.[0005] physical layer – where the physical layer is used for transmission).

Re claim 43:

Raphaeli discloses *deciding whether the packet is successfully transmitted* (Para.[0048] the receiving station transmitting an ACK reply).

Re claim 50:

Raphaeli discloses *before performing the first checking step again, changing the competitive window range by a predetermined size that is set according to the service priority of the received packet* (Para.[0033] multiple contention windows based on priority class and Fig.20A where the contention window is set before).

Re claim 51:

Raphaeli discloses *to increase a transmission probability, a lower limit and/or an upper limit of the competitive window range is reduced by the size* (Para.[0033] multiple contention windows based on priority class and Para.[0131] When a predefined threshold Packet_Timeout_Threshold is reached, the packet priority is incremented by one and contention for the channel is attempted using the new priority).

Re claim 53:

Raphaeli discloses *to increase a transmission probability, a lower limit and/or an upper limit of the competitive window range is increased by the size* (Para.[0033] multiple contention windows based on priority class and

Para.[0131] When a predefined threshold Packet_Timeout_Threshold is reached, the packet priority is incremented by one and contention for the channel is attempted using the new priority).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Meier (US App. 2008/0285489), Benveniste (US App. 2008/0013567), and Walton (US App. 2005/0135318) show CSMA/CA.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD S. ADHAMI whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad S Adhami/
Examiner, Art Unit 2471

/Chi H Pham/
Supervisory Patent Examiner, Art
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